

REPORT ON MACHINERY.

No. 13579

Port of *Glasgow*

THURS. 14 MAR 1895

No. in Survey held at *Glasgow*
Reg. Book.

Date, first Survey *5th Sept 1894* Last Survey *7th March 1895*

(Number of Visits *44*)

on the *S. S. Azov*

Tons { Gross *1000*
Net *1000*
When built *1895*

Master *I. P. P. P. P.* Built at *Glasgow* By whom built *L. P. P. P.*

Engines made at *Glasgow* By whom made *Dunsmuir Jackson* when made *1895*

Boilers made at *Glasgow* By whom made *"* when made *1895*

Registered Horse Power *1602* Owners *Sigismundo Kopaitich* Port belonging to *Fiume*

Nom. Horse Power as per Section 28 *162*.

ENGINES, &c.— Description of Engines *Triple Expansion inverted directacting* No. of Cylinders *three*
Diameter of Cylinders *19", 31 1/2", 51 1/2"* Length of Stroke *36"* Revolutions per minute *as per rule 92 1/2"*
Diameter of Tunnel shaft *as fitted 9 1/2"* Diameter of Crank shaft journals *9 1/2"* Diameter of Crank pin *9 1/2"* Size of Crank webs *6 1/2 x 18"*
Diameter of screw *13' 6"* Pitch of screw *16' 0"* No. of blades *four* State whether moveable *fixed* Total surface *49 sq. ft.*
No. of Feed pumps *two* Diameter of ditto *2 1/2"* Stroke *18"* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *two* Diameter of ditto *3"* Stroke *18"* Can one be overhauled while the other is at work *yes*
No. of Donkey Engines *three* Sizes of Pumps *Duplex 4 1/2 x 8 x 8"* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *two 2 3/4" in gutters as approved.* In Holds, &c. *Two 2 1/4" in fore hold, one 2 1/4"*
No. of bilge injections *one size 4"* Connected to condenser, or to circulating pump *circ* Is a separate donkey suction fitted in Engine room & size *2 3/4"*
Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *none*
Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes* Are the discharge pipes above or below the deep water line *above*
Are they each fitted with a discharge valve always accessible on the plating of the vessel *yes* Are the blow off cocks fitted with a spigot and brass covering plate *yes*
What pipes are carried through the bunkers *bilge pipes* How are they protected *undercoiling*
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*
When were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launching* Is the screw shaft tunnel watertight *apparently*
Is it fitted with a watertight door *yes* worked from *upper platform*.

BOILERS, &c.— (Letter for record *S.*) Total Heating Surface of Boilers *2469*
No. and Description of Boilers *one Cylindrical return tubular* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*
Date of test *13/2/95* Can each boiler be worked separately *—* Area of fire grate in each boiler *69 sq. ft.* No. and Description of safety valves to
each boiler *two spring loaded* Area of each valve *8' 29 sq. in.* Pressure to which they are adjusted *165 lbs* Are they fitted
with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *two feet* Mean diameter of boilers *192"*
Length *11' 0"* Material of shell plates *Steel* Thickness *1 1/4"* Description of riveting: circum. seams *Lap 2 Rivets long. seams D Butt 5 Rivets*
Diameter of rivet holes in long. seams *2 1/16"* Pitch of rivets *9 1/8"* Lap of plates or width of butt straps *2 1/4"*
Per centages of strength of longitudinal joint *88* Working pressure of shell by rules *160 lbs* Size of manhole in shell *12" x 16"*
Size of compensating ring *1 1/4" x 7 1/4"* No. and Description of Furnaces in each boiler *three ribbed* Material *steel* Outside diameter *47"*
Length of plain part *7' 7 1/2"* Thickness of plates *3 1/32"* Description of longitudinal joint *weld* No. of strengthening rings *ribs*
Working pressure of furnace by the rules *160 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *9/16"* Top *5/8"* Bottom *5/16"*
Pitch of stays to ditto: Sides *9 1/8"* Back *8 1/4"* Top *9 1/8 x 8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *161 lbs*
Material of stays *Steel* Diameter at smallest part *1 7/8"* Area supported by each stay *83 sq. in.* Working pressure by rules *169* End plates in steam space:
Material *Steel* Thickness *1* Pitch of stays *16 3/8"* How are stays secured *to nuts* Working pressure by rules *166 lbs* Material of stays *Steel*
Diameter at smallest part *5 1/4"* Area supported by each stay *268 sq. in.* Working pressure by rules *177 lbs* Material of Front plates at bottom *Steel*
Thickness *7/8"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *14 1/2"* Working pressure of plate by rules *165 lbs*
Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4 x 4 5/8"* Material of tube plates *Steel* Thickness: Front *13/16"* Back *13/16"* Mean pitch of stays *11 3/4"*
Pitch across wide water spaces *14 1/2"* Working pressures by rules *228, 213 lbs* Girders to Chamber tops: Material *Iron* Depth and
thickness of girder at centre *7 1/2" x 2 x 1"* Length as per rule *32"* Distance apart *8"* Number and pitch of Stays in each *2 x 9 1/8"*
Working pressure by rules *172 lbs* Superheater or Steam chest: how connected to boiler *none* Can the superheater be shut off and the boiler worked
separately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivet
holes *—* Pitch of rivets *—* Working pressure of shell by rules *—* Diameter of flue *—* Material of flue plates *—* Thickness *—*
If stiffened with rings *—* Distance between rings *—* Working pressure by rules *—* End plates: Thickness *—* How stayed *—*
Working pressure of end plates *—* Area of safety valves to superheater *—* Are they fitted with easing gear *—*

GLS 171-0318

13519 gls

Copy of Newcastle report dated 5.3.95

DONKEY BOILER— Description *Vertical four cross tubes*
Made at *G. head* By whom made *Clarke Chapman & Co* When made *1895* Where fixed in *Shakelard*
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *4505* Fire grate area *18 sq ft* Description of safety valves *Spring loaded*
No. of safety valves *one* Area of each *8.3* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *5'-6"* Length *13'-6"* Material of shell plates *steel* Thickness *25/64"*
Description of riveting long. seams *B. R. lap.* Diameter of rivet holes *9/16"* Whether punched or drilled *drilled* Pitch of rivets *3"*
Lap of plating *4.8"* Per centage of strength of joint *75* Rivets *72* Thickness of shell crown plates *11/32"* Radius of do. *5 ft* No. of Stays to do. *five*
Dia. of stays. *1 1/2"* Diameter of furnace Top *4'-6 1/2"* Bottom *4'-10 1/2"* Length of furnace *5'-6"* Thickness of furnace plates *9/16"* Description of joint *B. R. lap.* Thickness of furnace crown plates *1/2"* Stayed by *as above* Working pressure of shell by rules *91 lbs*
Working pressure of furnace by rules *80 lbs* Diameter of uptake *14"* Thickness of uptake plates *13/32"* Thickness of water tubes *3/8"*
SPARE GEAR. State the articles supplied:— *As required by the Rules.*

The foregoing is a correct description,

Dummir & Jackson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boilers of this vessel have been built under the conditions of special survey and they have been securely fitted on board, and the safety valves adjusted under steam.*

The engines have not yet been tried under steam, but it is expected that the trial trip will be run in a day or two. This report is being forwarded now as the Owners are desirous of possessing the certificates before the vessel leaves this country.

It is submitted that this vessel will be eligible for the record + L.M.C. 3.95 when the engines have been tried under steam and found satisfactory in a few days time.

[Large blue signature]

Certificate (if required) to be sent to

Glasgow

The amount of Entry Fee.. £ *2* : : : When applied for, *12/31/95*
Special £ *24* : *6* : : :
Donkey Boiler Fee £ : : : When received, *13/31/95*
Travelling Expenses (if any) £ : : : : :
18

C. C. Steamer
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRIDAY 15 MAR 1895

Assigned

+ L.M.C. 3.95

Not to be retained by Surv. till survey completed
In order now (per the ltr) as 25/3/95